GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 15, 2001, 10:52:22 ; Search time 35.6 Seconds
(without alignments)
14.407 Million cell updates/sec

Title: US-09-288-719-3
Perfect score: 81
Sequence: 1 GGGGSGGRASGGGGS 15

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 268485 seqs, 34193795 residues

Total number of hits satisfying chosen parameters: 268485

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_36:*
1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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21: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	81	100.0	15	20	Y50707	VH-L-VL construct
2	71	87.7	14	20	Y50706	VH-L-VL construct
3	71	87.7	14	20	Y33596	VH-VL domain linke
4	71	87.7	16	17	R86794	GM-CSF/EPO linker
5	70	86.4	15	13	R25983	Peptide monomer 21
6	70	86.4	15	15	R59500	Hydrophilic linker
7	70	86.4	15	16	R85123	Gene delivery fusi
8	70	86.4	15	16	R76683	Human ONS-M21 anti
9	70	86.4	15	17	W09323	Peptide linker arm
10	70	86.4	15	17	R99244	(Gly4Ser)3 linker.
11	70	86.4	15	17	R95067	scFv spacer peptid
12	70	86.4	15	18	W35984	Peptide linker SEQ
13	70	86.4	15	18	W10295	Peptide linker for
14	70	86.4	15	20	Y49219	Sequence of a link
15	70	86.4	15	20	Y43414	Peptide SEQ ID NO:
16	70	86.4	15	20	Y33328	E6-sFv peptide lin
17	70	86.4	15	20	Y27397	Flexible linker us
18	70	86.4	15	20	Y21600	EP-919566 peptide
19	70	86.4	15	20	Y03763	Linker peptide in
20	70	86.4	15	20	W87784	Antibody-beta-lact
21	70	86.4	15	21	Y79551	Linker peptide use
22	70	86.4	15	21	Y79552	Linker peptide use
23	70	86.4	15	21	Y70606	Protein encoded by
24	70	86.4	16	17	R99243	(Gly4Ser)3Ser link
25	70	86.4	17	20	W99361	Linker peptide for
26	70	86.4	18	15	R60525	Linkage peptide us
27	70	86.4	18	20	Y43500	Linker for dual av
28	70	86.4	18	21	Y83214	Peptide linker use
29	70	86.4	19	20	Y25402	Activity modulatin
30	70	86.4	20	16	R87737	Spacer #5 for a ci
31	70	86.4	20	18	W18554	Linker sequence 1
32	70	86.4	20	20	Y43415	Peptide SEQ ID NO:
33	70	86.4	22	16	R87736	Spacer #4 for a ci
34	70	86.4	23	20	Y25361	IFNAR2/IFN-beta co
35	70	86.4	24	20	Y23689	Stalling peptide u
36	70	86.4	25	18	W18555	Linker sequence 2
37	70	86.4	25	18	W10303	Peptide linker for
38	70	86.4	28	18	W34415	Primary library #3
39	70	86.4	28	18	W35978	Primary library SE
40	70	86.4	28	20	Y25360	IFNAR2/IFN-beta co
41	70	86.4	29	18	W52665	Peptide library fo
42	70	86.4	29	18	W34413	Primary library #1
43	70	86.4	29	18	W34416	Primary library #4
44	70	86.4	29	18	W35976	Primary library SE
45	70	86.4	29	18	W35979	Primary library SE

ALIGNMENTS

RESULT 1
Y50707
ID Y50707 standard; peptide; 15 AA.
XX
AC Y50707;
XX
DT 08-FEB-2000 (first entry)
XX
DE VH-L-VL construct peptide linker 2.
XX
KW Immunoglobulin; light chain; VL region; heavy chain; VH region;
KW single-chain; antigen binding; variable domain; anticancer; treatment;
KW antiviral; antibacterial; antimalarial; antiinflammatory; diagnosis;
KW tumor vaccine; autoimmune disease; inflammation; blood disorder;
KW nervous system; infection.
XX
OS Synthetic.
XX
PN DE19827239-A1.
XX
PD 23-DEC-1999.
XX
PF 18-JUN-1998; 98DE-1027239.
XX
PR 18-JUN-1998; 98DE-1027239.
XX
PA (HMRI) HOECHST MARION ROUSSEL DEUT GMBH.
XX
PI Kontermann R, Sedlacek H, Mueller R;
XX
DR WPI; 1999-591691/51.
XX
PT Single chain molecule binding antigen, its preparation and medicine
PT containing this molecule - consists of binding some antigen with
PT different variable domain of light and heavy chain of immunoglobulin.

```
XX
PS   Claim 9; Page 14; 26pp; German.
XX
CC   This invention describes a novel single-chain molecule (I) that binds
CC   multiple antigens and comprises two variable domains of heavy
CC   immunoglobulin chains (VH) and two variable domains of light chains (VL).
CC   The domains are provided as two VH-VL constructs which are attached via
CC   a peptide (P). Any VH and VL may be replaced by their functional
CC   fragments. The products of the invention have anticancer, antiviral,
CC   antibacterial, antimalarial, and antiinflammatory activity. (I) are used
CC   to treat, prevent or diagnose tumors (e.g. as tumor vaccines), autoimmune
CC   diseases and inflammation (e.g. transplant rejection and arthritis),
CC   blood disorders (e.g. of the coagulation and/or circulatory systems, such
CC   as anemia, leucopenia, thrombocytopenia and hypertension), nervous system
CC   disorders and/or infections (by viruses or bacteria, or malaria),
CC   including, when (I) include a fusogenic peptide, use for gene transfer.
CC   This sequence represents a linker peptide used in the construction of the
CC   single chain molecule of the invention.
CC   NOTE: This specification is a treat as basic for CZ-9901215 in Derwent
CC   week 9951.
XX
SQ   Sequence   15 AA;


  Query Match             100.0%;  Score 81;  DB 20;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 0.00034;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 GGGGSGGRASGGGGS 15
           |||||||||||||||
Db       1 ggggsggrasggggs 15


RESULT   2
Y50706
ID   Y50706 standard; peptide; 14 AA.
XX
AC   Y50706;
XX
DT   08-FEB-2000  (first entry)
XX
DE   VH-L-VL construct peptide linker 1.
XX
KW   Immunoglobulin; light chain; VL region; heavy chain; VH region;
KW   single-chain; antigen binding; variable domain; anticancer; treatment;
KW   antiviral; antibacterial; antimalarial; antiinflammatory; diagnosis;
KW   tumor vaccine; autoimmune disease; inflammation; blood disorder;
KW   nervous system; infection.
XX
OS   Synthetic.
XX
PN   DE19827239-A1.
XX
PD   23-DEC-1999.
XX
PF   18-JUN-1998;   98DE-1027239.
XX
PR   18-JUN-1998;   98DE-1027239.
XX
PA   (HMRI ) HOECHST MARION ROUSSEL DEUT GMBH.
XX
PI   Kontermann R,  Sedlacek H,  Mueller R;
XX
DR   WPI; 1999-591691/51.
XX
PT   Single chain molecule binding antigen, its preparation and medicine
PT   containing this molecule  - consists of binding some antigen with
PT   different variable domain of light and heavy chain of immunoglobulin.
XX
PS   Claim 9; Page 13; 26pp; German.
XX
CC   This invention describes a novel single-chain molecule (I) that binds
CC   multiple antigens and comprises two variable domains of heavy
CC   immunoglobulin chains (VH) and two variable domains of light chains (VL).
CC   The domains are provided as two VH-VL constructs which are attached via
CC   a peptide (P). Any VH and VL may be replaced by their functional
CC   fragments. The products of the invention have anticancer, antiviral,
CC   antibacterial, antimalarial, and antiinflammatory activity. (I) are used
CC   to treat, prevent or diagnose tumors (e.g. as tumor vaccines), autoimmune
CC   diseases and inflammation (e.g. transplant rejection and arthritis),
CC   blood disorders (e.g. of the coagulation and/or circulatory systems, such
CC   as anemia, leucopenia, thrombocytopenia and hypertension), nervous system
CC   disorders and/or infections (by viruses or bacteria, or malaria),
CC   including, when (I) include a fusogenic peptide, use for gene transfer.
CC   This sequence represents a linker peptide used in the construction of the
CC   single chain molecule of the invention.
CC   NOTE: This specification is a treat as basic for CZ-9901215 in Derwent
CC   week 9951.
XX
SQ   Sequence   14 AA;


  Query Match             87.7%;  Score 71;  DB 20;  Length 14;
  Best Local Similarity   100.0%;  Pred. No. 0.0048;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 GGGGSGGRASGGG 13
           |||||||||||||
Db       1 ggggsggrasggg 13


RESULT   3
Y33596
ID   Y33596 standard; Protein; 14 AA.
XX
AC   Y33596;
XX
DT   20-DEC-1999  (first entry)
XX
DE   VH-VL domain linker peptide #8.
XX
KW   Antigen binding; single chain; variable domain; VH domain; light chain;
KW   heavy immunoglobulin chain; VL domain; anticancer; antiviral; tumor;
KW   antibacterial; antimalarial; antiinflammatory; treatment; prevention;
KW   diagnosis; vaccine; autoimmune disease; inflammation; blood disorder;
KW   transplant rejection; arthritis; nervous system disorder; infection.
XX
OS   Synthetic.
XX
PN   DE19816141-A1.
XX
PD   14-OCT-1999.
XX
PF   09-APR-1998;   98DE-1016141.
XX
PR   09-APR-1998;   98DE-1016141.
XX
PA   (HMRI ) HOECHST MARION ROUSSEL DEUT GMBH.
XX
PI   Kontermann R,  Sedlacek H,  Mueller R;
XX
DR   WPI; 1999-581511/50.
XX
PT   New polyspecific binding agents containing variable heavy and light
PT   constructs connected via peptide linker, used for treatment, prevention
PT   or diagnosis of e.g. cancer  -
XX
PS   Claim 9; Page 16; 20pp; German.
XX
CC   This sequence represents a novel single-chain molecule (I) that binds
CC   multiple antigens and comprises two variable domains of heavy
CC   immunoglobulin chains (VH), having specificities A and B and two
CC   variable domains of light chains (VL), also with specificities A and B.
CC   The domains are provided as two VH-VL constructs which are attached via
CC   a peptide (P). Any VH and VL may be replaced by their functional
CC   fragments. The products of the invention have anticancer, antiviral,
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CC antibacterial, antimalarial and antiinflammatory activity. (I) are used
CC to treat, prevent or diagnose tumors (e.g. as tumor vaccines), autoimmune
CC diseases and inflammation (e.g. transplant rejection and arthritis),
CC blood disorders (e.g. of the coagulation and/or circulatory systems, such
CC as anemia, leucopenia, thrombocytopenia and hypertension), nervous system
CC disorders and/or infections (by viruses or bacteria, or malaria),
CC including, when (I) include a fusogenic peptide, use for gene transfer.
CC (I) are produced simply and in predominantly homogeneous form, in a wide
CC variety of hosts, either in secreted or membrane-bound forms. This
CC sequence represents a VH-VL domain linker peptide which is used to
CC illustrate the method of the invention.
XX
SQ Sequence 14 AA;

Query Match 87.7%; Score 71; DB 20; Length 14;
Best Local Similarity 100.0%; Pred. No. 0.0048;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GGGGSGGRASGGG 13
||||||||||||| |
Db 1 ggggsggrasggg 13

RESULT 4
R86794
ID R86794 standard; Peptide; 16 AA.
XX
AC R86794;
XX
DT 01-JUL-1996 (first entry)
XX
DE GM-CSF/EPO linker fragment, L1.
XX
KW Linker sequence; granulocyte macrophage-colony stimulating factor;
KW GM-CSF; erythropoietin; EPO; hybrid protein; stimulation;
KW haematopoiesis; erythroid differentiation.
XX
OS Synthetic.
XX
PN WO9533057-A1.
XX
PD 07-DEC-1995.
XX
PF 26-MAY-1995; 95WO-EP02011.
XX
PR 27-MAY-1994; 94IT-0FI0106.
XX
PA (MENA) MENARINI RICERCHE SUD SPA.
XX
PI Carloni C, Coscarella A, De Santis R, Mele A;
XX
DR WPI; 1996-030568/03.
DR N-PSDB; T06969.
XX
PT GM-CSF-EPO hybrid proteins contg. linker sequence - to stimulate
PT haematopoiesis, with higher action specificity compared to unlinked
PT granulocyte macrophage colony stimulating factor (GM-CSF) and
PT erythropoietin (EPO)
XX
PS Claim 5; Fig 3; 26pp; English.
XX
CC The sequences given in R86794-96 represent the linker sequences of the
CC invention. These linkers are used to join granulocyte macrophage-
CC colony stimulating factor (GM-CSF) and erythropoietin (EPO) in the
CC formation of a hybrid protein. The hybrid protein is useful for the
CC stimulation of haematopoiesis. The fused molecules exhibit a higher
CC specificity of action on erythroid differentiation, compared to that
CC of an equimolar mixture of unlinked GM-CSF and EPO molecules.
XX
SQ Sequence 16 AA;

Query Match 87.7%; Score 71; DB 17; Length 16;
Best Local Similarity 86.7%; Pred. No. 0.0054;
Matches 13; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GGGGSGGRASGGGGS 15
||||||| |||||
Db 2 ggggsggagsggggs 16

RESULT 5
R25983
ID R25983 standard; Protein; 15 AA.
XX
AC R25983;
XX
DT 21-JAN-1993 (first entry)
XX
DE Peptide monomer 21.
XX
KW Reverse peptide; microbial pathogen; phytotoxicity; head-to-tail;
KW proteolytic degradation; dimer; peptide bond; bridging group;
KW omega loop.
XX
OS Synthetic.
XX
PN EP497366-A.
XX
PD 05-AUG-1992.
XX
PF 31-JAN-1992; 92EP-0101616.
XX
PR 01-FEB-1991; 91US-0649784.
XX
PA (DONG) IST DONEGANI SPA GUIDO.
XX
PI Bascomb NF, Dugas de Robertis C, Everett NP, Mapelli C;
PI Stahl GF, Swerdloff MD, Williams JI;
XX
DR WPI; 1992-260816/32.
XX
PT Reverse antimicrobial peptide(s) and oligopeptide(s) - useful for
PT protecting plants from pathogens and for determining
PT phytotoxicity
XX
PS Disclosure; Fig 1; 79pp; English.
XX
CC The sequences given in R25963-83 are a collection of natural and
CC reverse peptides which are active against at least one microbial
CC pathogen and, preferably, at least one plant pathogen. It has been
CC found that acceptable activity and acceptable levels of protection
CC against at least one microbial pathogen and at least one microbial
CC plant pathogen may be obtained by reversing the sequence of amino
CC acids contained within naturally occuring antimicrobial peptides
CC while maintaining the directionality of the peptide bonds. These
CC peptides possess relatively low phytotoxicity and/or low susceptibility
CC to proteolytic degradation. The oligopeptides may be used as dimers
CC composed of two peptide units with or without an intervening bridge.
CC The simplest structure taken by these dimers is the "head-to-tail"
CC configuration. This comprises at least one first peptide monomer and
CC at least one second peptide monomer. Each peptide monomer has an N-
CC and C-terminus, both of which are capable of forming peptide bonds.
CC In the head-to-tail configuration the C-terminal amino acid of the
CC first monomer peptide is directly bound to the N-terminus of the
CC second monomer peptide, by a peptide bond, without an intervening
CC bridging group. In other peptide dimers bridging groups may be used
CC and may be as few as one amino acid but may be as large as 100 amino
CC acids in length and form omega loops or other secondary structures.
XX
SQ Sequence 15 AA;

Query Match 86.4%; Score 70; DB 13; Length 15;
Best Local Similarity 86.7%; Pred. No. 0.0067;

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  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT   6
R59500
ID   R59500 standard; peptide; 15 AA.
XX
AC   R59500;
XX
DT   29-JUL-1994  (first entry)
XX
DE   Hydrophilic linker #1 to make single chain antibody.
XX
KW   Single chain antibody; sFv; heavy chain; light chain;
KW   variable domain; hydrophilic linker; antibodies.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1..5
FT                   /note= "first of 3 repeat units"
XX
PN   WO9402610-A.
XX
PD   03-FEB-1994.
XX
PF   16-JUL-1993;    93WO-US06735.
XX
PR   17-JUL-1992;    92US-0916939.
PR   17-MAR-1993;    93US-0045274.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
XX
PI   Haseltine WA,  Marasco WA;
XX
DR   WPI; 1994-048868/06.
XX
PT   Intracellular binding of antigens - by using antibody targetting
PT   with vector system, for e.g. tumour suppression
XX
PS   Claim 35; Page 25; 155pp; English.
XX
CC   New vector systems comprise a sequence adapted for intracellular
CC   delivery and expression contg. a promoter operably linked to an
CC   antibody gene encoding an antibody which binds to a specific target
CC   antigen. The antibody is esp. a single chain antibody in which the
CC   heavy and light chain variable regions are joined via a hydrophilic
CC   linker peptide. Examples of suitable linkers are given in R59500-
CC   R59507, with R59500 being the most preferred linker.
XX
SQ   Sequence   15 AA;


  Query Match            86.4%;  Score 70;  DB 15;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT   7
R85123
ID   R85123 standard; peptide; 15 AA.
XX
AC   R85123;
XX
DT   06-JUN-1996  (first entry)
XX
DE   Gene delivery fusion protein flexon peptide.
XX
KW   Targeted nucleic acid; fusion protein; nucleic acid binding domain;
KW   gene delivery domain; cell; GAL4; interleukin; flexon; linker; primer;
KW   amplification; PCR; S.cerevisiae; gene therapy.
XX
OS   Synthetic.
XX
PN   WO9528494-A1.
XX
PD   26-OCT-1995.
XX
PF   17-APR-1995;    95WO-US04738.
XX
PR   19-OCT-1994;    94US-0326460.
PR   15-APR-1994;    94US-0227858.
XX
PA   (TARG-) TARGETED GENETICS CORP.
XX
PI   Overell RW,  Weisser KE;
XX
DR   WPI; 1995-373808/48.
DR   N-PSDB; T02970.
XX
PT   Fusion protein for delivering targetted nucleic acid to target cell
PT   - comprises a nucleic acid binding domain and a gene delivery
PT   domain, used in, e.g. gene therapy of Cystic fibrosis and in tumour
PT   vaccines
XX
PS   Example 3; Page 49; 80pp; English.
XX
CC   A novel method of delivering a targeted nucleic acid involves a fusion
CC   protein comprising nucleic acid binding domain (NBD) linked to a gene
CC   delivery domain (GDD).  The NBD binds the target DNA whilst the GDD
CC   mediates the delivery of the target DNA into the cell.  An example
CC   of the fusion protein comprises the GAL4 NBD linked to the interleukin
CC   (IL)-2 GDD. The NBD and GDD domain can be separated by a short flexible
CC   peptide linker termed a "flexon".  The oligomers T02970-1 were annealed
CC   to encode such a "flexon".  The annealed product was inserted between
CC   the coding sequence of the yeast GAL4 NBD and the IL-2 GDD in the
CC   plasmid pT3GAL4/IL-2m.  This vector was transformed into E.coli DH10B
CC   for production of the fusion protein. The fusion protein has applications
CC   in gene therapy esp. for in vivo and in vitro gene delivery.
XX
SQ   Sequence   15 AA;


  Query Match            86.4%;  Score 70;  DB 16;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT   8
R76683
ID   R76683 standard; Protein; 15 AA.
XX
AC   R76683;
XX
DT   18-JAN-1996  (first entry)
XX
DE   Human ONS-M21 antibody Fv fragment linker peptide.
XX
KW   Plasmid pSCFVT7-hM21; human; ONS-M21 antibody; chimeric protein;
KW   medulloblastoma; brain tumour; treatment; diagnosis; Fv fragment.
XX
OS   Synthetic.
XX
PN   WO9514041-A1.
```

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XX
PD   26-MAY-1995.
XX
PF   19-OCT-1994;   94WO-JP01763.
XX
PR   19-NOV-1993;   93JP-0291078.
XX
PA   (CHUS ) CHUGAI SEIYAKU KK.
XX
PI   Ohtomo T,  Sato K,  Tsuchiya M;
XX
DR   WPI; 1995-200347/26.
DR   N-PSDB; Q94549.
XX
PT   Reconstituted antibody against human medullo:blastoma cells -
PT   contains high proportion of human antibody origin and has low
PT   antigenicity
XX
PS   Claim 32; Page 103; 120pp; Japanese.
XX
CC   Q94549 encodes R76683 a peptide linker, part of the human antibody
CC   ONS-M21 Fv fragment. The fragment was used in the construction of a
CC   human/murine chimeric antibody, reactive with human medullo-
CC   blastoma (a brain tumour) cells. The chimeric antibody can be
CC   used in the diagnosis and treatment of this disease.
XX
SQ   Sequence   15 AA;


  Query Match             86.4%;  Score 70;  DB 16;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GGGGSGGRASGGGGS 15
           |||||||  ||||||
Db       1 ggggsggggsggggs 15


RESULT   9
W09323
ID   W09323 standard; peptide; 15 AA.
XX
AC   W09323;
XX
DT   10-JUN-1997  (first entry)
XX
DE   Peptide linker arm #1.
XX
KW   Chimaeric; bispecific; DNA binding domain; trans; activator; repressor;
KW   diphtheria; Pseudomonas; toxin; thymidine kinase; single chain antibody;
KW   pathogen; HIV Tat; papilloma virus; E6/E7; Epstein-Barr virus; EBNA;
KW   hyperproliferation; p53; tumour; oligomerisation.
XX
OS   Synthetic.
XX
PN   WO9630512-A1.
XX
PD   03-OCT-1996.
XX
PF   29-MAR-1996;   96WO-FR00477.
XX
PR   31-MAR-1995;   95FR-0003841.
XX
PA   (RHON ) RHONE POULENC RORER SA.
XX
PI   Bracco L,  Schweighoffer F,  Tocque B;
XX
DR   WPI; 1996-455359/45.
XX
PT   Conditional gene expression system triggered by e.g. infection or
PT   hyper-proliferation  - comprises novel bi:specific proteins having
PT   DNA-binding domain and second domain specific for trans-activator or
PT   repressor, for gene therapy
XX
PS   Claim 23; Page 45; 81pp; French.
XX
CC   The invention relates to novel chimaeric, bispecific proteins which
CC   comprise: (a) a DNA binding domain and (b) a domain which binds a
CC   trans-activator (TA), trans-repressor (TR) or their complexes, which are
CC   characteristic of a physiological or physiopathological state.  The novel
CC   chimaeric, bispecific proteins allow expression of a therapeutic protein
CC   (e.g. diphtheria or Pseudomonas toxins, thymidine kinase, single chain
CC   antibodies) to be regulated in response to particular conditions.
CC   Examples include making the protein responsive to the presence of
CC   particular pathogenic TA mols (e.g. HIV Tat, papilloma virus E6/E7
CC   proteins or Epstein-Barr virus EBNA protein), the therapeutic protein
CC   will be expressed in those cells infected by that pathogen.  Similarly,
CC   where the chimaeric protein responds to a cellular protein typical of a
CC   hyperproliferative state (esp. wild-type and mutant p53), expression can
CC   be restricted to tumour cells.  The sequence presented here is an example
CC   of a peptide linker "arm" which connects the DNA binding domain to the TA
CC   binding domain.
XX
SQ   Sequence   15 AA;


  Query Match             86.4%;  Score 70;  DB 17;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GGGGSGGRASGGGGS 15
           |||||||  ||||||
Db       1 ggggsggggsggggs 15


RESULT   10
R99244
ID   R99244 standard; Peptide; 15 AA.
XX
AC   R99244;
XX
DT   28-NOV-1996  (first entry)
XX
DE   (Gly4Ser)3 linker.
XX
KW   Bioactive fusion protein; interleukin-12; IL-12; p35 subunit;
KW   p40 subunit; antitumour; cytokine; tumour; melanoma;
KW   fibrosarcoma; renal cell carcinoma; immunotherapy; therapy;
KW   retrovirus; vector.
XX
OS   Synthetic.
XX
PN   WO9624676-A1.
XX
PD   15-AUG-1996.
XX
PF   07-FEB-1996;   96WO-US01787.
XX
PR   08-FEB-1995;   95US-0385335.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
XX
PI   Lieschke GJ,  Mulligan RC;
XX
DR   WPI; 1996-384448/38.
DR   N-PSDB; T35195;
DR   N-PSDB; T35196;
DR   N-PSDB; T35202;
DR   N-PSDB; T35203.
XX
PT   New DNA encoding fusion protein, esp. contg. IL-12 p35 and p40
PT   subunits - for treatment of established tumours or prevention of
PT   tumour establishment
XX
PS   Claim 2; Page 69; 118pp; English.
XX
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CC   Peptide linkers (Gly4Ser)2Ser, (Gly4Ser)3Ser, (Gly4Ser)3 and
CC   (Gly6)Ser (R99242-45) are used to join the subunits of novel
CC   dimeric or multimeric fusion proteins.  They have been utilised in
CC   the prodn. of bioactive interleukin-12 (IL-12) fusion proteins,
CC   linking mouse/human IL-12 p35 subunit (see also R99246) to
CC   mouse/human IL-12 p40 subunit (R99247).  DNA encoding such constructs
CC   can be incorporated into a retroviral vector (see also T35198) to
CC   allow dimeric IL-12 prodn. in transfected cells.  Tumour cells (esp.
CC   CMS-5, B16 or renal carcinoma cells) secreting IL-12 dimer can be
CC   used to reduce the size of established tumours and/or increase
CC   survival time, esp. in cases of melanoma, fibrosarcoma and renal
CC   cell carcinoma.
XX
SQ   Sequence   15 AA;


  Query Match             86.4%;  Score 70;  DB 17;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT  11
R95067
ID   R95067 standard; Peptide; 15 AA.
XX
AC   R95067;
XX
DT   18-AUG-1996  (first entry)
XX
DE   scFv spacer peptide.
XX
KW   Nucleic acid transfer system; gene transfer; gene therapy;
KW   cell targeting; multidomain protein; vector; cancer; scFv;
KW   single chain antibody.
XX
OS   Synthetic.
XX
PN   WO9613599-A1.
XX
PD   09-MAY-1996.
XX
PF   31-OCT-1995;   95WO-EP04270.
XX
PR   01-NOV-1994;   94EP-0810627.
XX
PA   (WELS/) WELS W.
XX
PI   Fominaya J,  Wels W;
XX
DR   WPI; 1996-239505/24.
XX
PT   Nucleic acid transfer system for gene therapy, e.g. against cancer
PT   - includes toxin translocation domain to target nucleic acid to
PT   specific cell
XX
PS   Example 5; Page 29; 106pp; English.
XX
CC   A spacer peptide (R95067) is used to link the light chain
CC   variable domain to the heavy chain variable domain of a single
CC   chain recombinant antibody (scFv).  It allows correct folding
CC   of an antigen binding domain present in the variable domains.
CC   The scFv is derived from hybridoma FRP5, which produces monoclonal
CC   antibody against the HER2 antigen of human tumour cells.  It forms
CC   the ligand domain of a multidomain protein (see also R95053 and
CC   R95056-58) that is used with an effector nucleic acid in a novel
CC   nucleic acid transfer system suitable for gene therapy.  The ligand
CC   domain has a target cell recognition function and allows cellular
CC   internalization of the multidomain protein/nucleic acid complex.
XX
SQ   Sequence   15 AA;


  Query Match             86.4%;  Score 70;  DB 17;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT  12
W35984
ID   W35984 standard; peptide; 15 AA.
XX
AC   W35984;
XX
DT   11-MAR-1998  (first entry)
XX
DE   Peptide linker SEQ ID NO:18 from US5683983.
XX
KW   Interleukin 5; IL-5; receptor; inflammatory disease; eosinophil;
KW   asthma; beta-adrenergic agonist; corticosteroid; treatment; mimetic;
KW   primary library.
XX
OS   Synthetic.
XX
PN   US5683983-A.
XX
PD   04-NOV-1997.
XX
PF   07-JUN-1995;   95US-0484083.
XX
PR   07-JUN-1995;   95US-0484083.
XX
PA   (GLAX ) GLAXO GROUP LTD.
XX
PI   Barrett RW,  Chen M,  England BP,  Schatz PJ,  Sloan D;
XX
DR   WPI; 1997-549007/50.
XX
PT   Treatment of disorders mediated by interleukin-5 - by administering
PT   peptide that binds to IL-5 receptor, for treatment of inflammatory
PT   diseases
XX
PS   Disclosure; Column 41-42; 38pp; English.
XX
CC   A novel method has been developed for treating a disorder mediated by
CC   IL-5 (interleukin-5). The method comprises administering a peptide that
CC   binds to the IL-5 receptor and comprises the following amino acid
CC   sequence, and dimers and oligomers of this:
CC   Cys X1 X2 Trp X3 Arg Cys X4 X5 Cys; where X1 = Gly, Ile, Val or Tyr;
CC   X2 = Asp or Glu; X3 = Ala or Val; X4 = Gln or Pro; and X5 = Ala, Glu,
CC   Lys, Met, Asn, Ser or Thr, where one or more of the CONH linkages may be
CC   replaced by a CH2OC(O)NR, phosphonate, CH2SO2NR, CH2NR, C(O)NR6 or
CC   NHCONH linkage, R = H or lower alkyl and R6 = lower alkyl; the
CC   N-terminal group = NRR1, NRCOR, NRCOOR, NRSO2R, NHCONHR, succinimido or
CC   NHCOOCH2Ar; R1 = H or lower alkyl and Ar = phenyl optionally mono-, di-
CC   or tri-substituted by lower alkyl, lower alkoxy, Cl and Br; the
CC   C-terminal group is COR2, R2 = OH, lower alkoxy or NR3R4, R3 and R4 = H
CC   or lower alkyl, or the N atoms of the NR3R4 group can optionally be part
CC   of the amine group of the N-terminus of the peptide so as to form a
CC   cyclic peptide. The present sequence represents a peptide linker. The
CC   peptide causes the production and accumulation of eosinophils in
CC   tissues. It may be used for treating IL-5-mediated inflammatory
CC   disorders, preferably of the respiratory tract, especially asthma,
CC   optionally together with a beta-adrenergic agonist, an antiinflammatory
CC   corticosteroid or ipratropium bromide.
XX
SQ   Sequence   15 AA;
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  Query Match            86.4%;  Score 70;  DB 18;  Length 15;
  Best Local Similarity  86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT  13
W10295
ID   W10295 standard; peptide; 15 AA.
XX
AC   W10295;
XX
DT   11-SEP-1997  (first entry)
XX
DE   Peptide linker for soluble fused MHC heterodimer:peptide complex.
XX
KW   Soluble; fusion; major histocompatibility complex; MHC;
KW   heterodimer; complex; linker; antigen; binding groove; tolerance;
KW   autoantigen; disease; insulin dependent; diabetes mellitus; IDDM;
KW   antagonist; T cell; anergy; presenting cell.
XX
OS   Synthetic.
XX
PN   WO9640944-A2.
XX
PD   19-DEC-1996.
XX
PF   07-JUN-1996;   96WO-US10102.
XX
PR   27-OCT-1995;   95US-0005964.
PR   07-JUN-1995;   95US-0480002.
PR   07-JUN-1995;   95US-0482133.
PR   07-JUN-1995;   95US-0483241.
XX
PA   (ANER-) ANERGEN INC.
PA   (ZYMO ) ZYMOGENETICS INC.
XX
PI   Deshpande S,  Gross JA,  Kindsvogel W,  Reich EP,  Sheppard PO;
XX
DR   WPI; 1997-052337/05.
XX
PT   Novel fused major histocompatibility complex:antigenic peptide
PT   complex  - useful to induce tolerance to an autoantigen-related
PT   disease e.g. insulin-dependent diabetes mellitus
XX
PS   Claim 7; Page 137; 142pp; English.
XX
CC   A novel soluble fused major histocompatibility complex (MHC)
CC   heterodimer:peptide complex, comprises DNA encoding 1st and 2nd
CC   MHC domains, linked by DNA encoding a 5-25 residue linker, e.g. the
CC   present peptide, and a DNA encoding an antigenic peptide able to
CC   associate with a peptide binding groove of the MHC molecule, linked
CC   in frame to the DNA encoding the 2nd domain by a DNA encoding a
CC   5-25 residue linker. The complex can be used to induce
CC   immunological tolerance in adults susceptible to, or suffering from
CC   an autoantigen related disease, e.g. insulin dependent diabetes
CC   mellitus (IDDM), by antagonising the binding of particular T cells
CC   and antigen presenting cells, to induce anergy (immunological
CC   non-responsiveness) in the targeted T cell. As the heterodimers and
CC   corresponding antigen are permanently linked into a single chain,
CC   obviating the requirement for complex heterodimer truncation or
CC   formation, the complex eliminates inefficient and non-specific
CC   peptide loading.
XX
SQ   Sequence   15 AA;


  Query Match            86.4%;  Score 70;  DB 18;  Length 15;
  Best Local Similarity  86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT  14
Y49219
ID   Y49219 standard; peptide; 15 AA.
XX
AC   Y49219;
XX
DT   07-FEB-2000  (first entry)
XX
DE   Sequence of a linking peptide.
XX
KW   Monoclonal antibody; MAb; 1A7; GD2; immune response; melanoma;
KW   neuroblastoma; glioma; soft tissue carcinoma; small cell carcinoma;
KW   tumor-associated antigen.
XX
OS   Synthetic.
XX
PN   US5977316-A.
XX
PD   02-NOV-1999.
XX
PF   16-JAN-1996;   96US-0591196.
XX
PR   17-JAN-1995;   95US-0372676.
XX
PA   (KENT ) UNIV KENTUCKY.
XX
PI   Foon KA,  Chatterjee SK,  Chatterjee M;
XX
DR   WPI; 1999-619711/53.
XX
PT   Monoclonal antibody 1A7 which elicits an anti-GD2 immunological
PT   response, useful for the development of products for the detection and
PT   treatment of cancers -
XX
PS   Disclosure; Column 24; 74pp; English.
XX
CC   The invention provides a monoclonal antibody (MAb) designated 1A7, which
CC   elicits an anti-GD2 (tumor-associated antigen) immunological response in
CC   humans. MAb 1A7 has defined light and heavy chain variable region
CC   sequences. The MAb 1A7 and polypeptides can be used for eliciting an
CC   anti-GD2 immune response. The polypeptides can also be used for detecting
CC   or purifying anti-GD2 antibody. The products can be used for treating GD2
CC   -associated diseases, e.g. melanoma, neuroblastoma, glioma, soft tissue
CC   carcinoma, and small cell carcinoma. They can be used for palliating the
CC   disease or for reducing the risk of recurrence.
XX
SQ   Sequence   15 AA;


  Query Match            86.4%;  Score 70;  DB 20;  Length 15;
  Best Local Similarity  86.7%;  Pred. No. 0.0067;
  Matches   13;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GGGGSGGRASGGGGS 15
          |||||||  ||||||
Db      1 ggggsggggsggggs 15


RESULT  15
Y43414
ID   Y43414 standard; peptide; 15 AA.
XX
AC   Y43414;
XX
DT   20-DEC-1999  (first entry)
XX
DE   Peptide SEQ ID NO:13.
```

XX
KW Angiogenic homology region; AHR; thrombospondin 1; TSP-1; angiostatin;
KW endostatin; anticancer; antiangiogenic; cancer; cardiovascular disease;
KW obesity; osteoarthritis; duodenal ulcer; abnormal neovascularisation;
KW wound healing; arteriosclerosis; ischaemic limb; ischaemic myocardium;
KW diabetes mellitus; blood vessel occlusion.
XX
OS Synthetic.
XX
PN WO9948924-A1.
XX
PD 30-SEP-1999.
XX
PF 23-MAR-1999; 99WO-US06334.
XX
PR 24-MAR-1998; 98US-0046737.
XX
PA (CHIL-) CHILDRENS MEDICAL CENT.
PA (YISS) YISSUM RES & DEV CO.
XX
PI Ben-Sasson SA;
XX
DR WPI; 1999-591075/50.
XX
PT New angiogenic peptide derivatives, used for treating e.g. cancer,
PT cardiovascular diseases, obesity, osteoarthritis, duodenal ulcers,
PT abnormal neovascularisation and for wound healing -
XX
PS Disclosure; Page 59; 62pp; English.
XX
CC The present invention specifically describes peptide derivatives
CC comprising an angiogenic homology region (AHR) of endostatin. The peptide
CC derivatives can be used for modulating angiogenesis in humans and
CC animals. The peptides can be used to treat a wide variety of disease
CC conditions, including cancer, cardiovascular diseases (e.g.
CC arteriosclerosis, ischaemic limbs and ischaemic myocardium), obesity,
CC osteoarthritis, duodenal ulcers, abnormal ocular neovascularisation
CC associated e.g. with diabetes mellitus, and to promote wound healing or
CC to stimulate the growth of new blood vessels to bypass, e.g. blood vessel
CC occlusions. The peptide derivatives can also be used for the production
CC of antibodies. The multivalent ligands may enable the administration of
CC lower doses in order to achieve therapeutic efficacy, as compared with
CC a univalent peptide chain. In addition, they can have long in vivo
CC lifetimes and good biodistribution when administered orally or
CC parenterally. The present sequence represents a peptide used in the
CC exemplification of the present invention.
XX
SQ Sequence 15 AA;

Query Match 86.4%; Score 70; DB 20; Length 15;
Best Local Similarity 86.7%; Pred. No. 0.0067;
Matches 13; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1 GGGGSGGRASGGGGS 15
          ||||||| ||||||
Db      1 ggggsggggsggggs 15
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